No. 200400159

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Rutgers, The State University of New Jersey and Nobel AG, Inc.

WHEREAS, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

FESCUE, TALL

'Magellan'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this sixteenth day of May, in the year two thousand and eight.*

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. Include form number and date on all reproductions

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER (BT: 3/27/2008)

Rutgers, the State University of New Jersey and Novel AG, Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME

OD-4

3. VARIETY NAME

Magellan

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*

New Jersey Agricultural Experiment Station
Cook College, Rutgers the State University
88 Lipman Drive
New Brunswick, NJ 08901-8525

5. TELEPHONE *(Include area code)*

(732) 761-9257

6. FAX *(Include area code)*

FOR OFFICIAL USE ONLY

PVPO NUMBER

200400159

FILING DATE

March 26, 2004

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*

Agricultural Experiment Station

8. IF INCORPORATED, GIVE STATE OF INCORPORATION

9. DATE OF INCORPORATION

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*

Thomas E. Brentano
Novel AG, Inc.
19664 Bernards Lane NE
Saint Paul, OR 97137

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 3652-
DATE 3/26/2004

CERTIFICATION FEE:
$ 768.00
DATE 3/13/2008

11. TELEPHONE *(Include area code)*

(503) 633-2697

12. FAX *(Include area code)*

(503) 633-2698

13. E-MAIL

tom1@stpaultel.com

14. CROP KIND *(Common Name)*

Tall fescue

16. FAMILY NAME *(Botanical)*

Graminaea

15. GENUS AND SPECIES NAME OF CROP

Festuca arundinacea

17. IS THE VARIETY A FIRST GENERATION HYBRID?

☐ YES ☑ NO

18. DOES THE VARIETY CONTAIN ANY TRANSGENES? *(OPTIONAL)*

☐ YES ☑ NO

IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERICALIZATION. _____

19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED
(Follow instructions on reverse)

a. ☑ Exhibit A. Origin and Breeding History of the Variety
b. ☑ Exhibit B. Statement of Distinctness
c. ☑ Exhibit C. Objective Description of Variety
d. ☐ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☑ Exhibit E. Statement of the Basis of the Owner's Ownership
f. ☑ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☑ Filing and Examination Fee ($3,652), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)*

☐ YES *(If "yes", answer items 21 and 22 below)* ☑ NO *(If "no", go to item 23)*

21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES?

☐ YES ☑ NO

IF YES, WHICH CLASSES? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?

☑ YES ☐ NO

IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS.

1 FOUNDATION 1 REGISTERED 2 CERTIFIED

(If additional explanation is necessary, please use the space indicated on the reverse.)

23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?

☑ YES ☐ NO

IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?

☐ YES ☑ NO

IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER		SIGNATURE OF OWNER	
NAME *(Please print or type)* Keith R Cooper		NAME *(Please print or type)*	
CAPACITY OR TITLE Executive Dean	DATE 3/04/04	CAPACITY OR TITLE	DATE

(See reverse for instructions and information collection burden statement)

ST-470 (04-03) designed by the Plant Variety Protection Office using Word 2002.

1.

200400159

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $3,652 ($432 filing fee and $3,220 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvpo/pvp.htm

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 http://www.ams.usda.gov/lsg/seed.htm.

ITEM

19a. Give:
(1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

20. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

23. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

24. *See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.*

22. CONTINUED FROM FRONT *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

1 generation each of foundation and registered followed by no more than 2 generations of certified. The registered generation is optional and may be skipped.

23. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

Seed from Magellan was offered for sale following the crop harvest season of July 15, 2003.

24. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

N/A

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

Exhibit A

Origin and Breeding History of 'Magellan' <OD4> Tall Fescue (BT: 7/10/2006)

'Magellan' <OD4> (BT: 7/10/2006) tall fescue (*Festuca arundinacea* Schreb.) is a medium low-growing, dark green, medium-fine-leaved, turf-type tall fescue selected from the maternal progenies of 71 clones. OD4 was selected for intermediate density, dark-green color, leafy semi-dwarf growth habit, late maturity and above average brown patch resistance. Approximately 87% of the parental germplasm in OD4 contains the *Neotyphodium* endophyte.

The 71 parents of OD4 were selected from maternal sources evaluated in progeny turf plots at the Rutgers Plant Science Research and Extension Farm at Adelphia, NJ from the 1995, 1996, 1997 and 1998 trials. Seventeen percent of the maternal germplasm traces to several plants selected from a population related to Apache. Another seventeen percent traces to a plant selected from the Princeton University campus in Princeton, NJ identified as having rhizomes and used in the development of Rebel. Eleven percent trace to a few plants selected from Athens, GA near the University of Georgia in 1977. Another 11 % trace to plants selected from Atlanta, GA near GA Tech before 1977. Another 11 % percent trace to several plants selected from the grounds of the GA State hospital in 1977. Another 11 % trace several plants selected from a population related to Arid tall fescue. Seven percent of the maternal germplasm of OD4 traces to a plant collected near Lexington, KY in 1979. Five percent trace to clones evaluated in 1988 selected from Southern GA. Two percent trace to plants selected from or related to a population used in the development of Amigo. Another two percent trace to several plants collected from Holly Springs Country Club in Mississippi in 1977. Another two percent traces to a few plants selected from or related to Duke. Another two percent trace to plants selected from or related to a population used in the development of Shenandoah tall fescue and an additional two percent trace to plants selected from or related to Titan tall fescue.

All the parental germplasm of 'Magellan' (BT: 7/10/2006) tall fescue traces its origin to plants selected from old turfs of the United States in a germplasm collection program initiated in 1962, to plants selected from or related to Rebel tall fescue (Funk et al., 1981). Attractive clones were selected from old turfs in Birmingham, AL; Athens, Atlanta, and Millegeville, GA; Preston, ID; Baltimore, MD; Bayonne, Jersey City, Elizabeth, Princeton, and Cape May, NJ; eastern North Carolina; Philadelphia, PA; Nashville, TN; Lexington, KY; Cincinnati, OH; Dallas, TX; and northern Mississippi. The tall fescue plants selected from old turfs were of unknown origin. All were large patches of turf surviving in stressful environments indicating that they had persisted and developed over a period of many years.

A few hundred attractive, turf-type plants were collected and established in spaced-plant nurseries and/or frequently mowed clonal evaluation trials at Rutgers University. All but a few dozen of the most promising plants were quickly discarded. The best selections were very different from any tall fescue variety in existence at the time of collection. They produced lower-growing turfs with finer leaves, greater density, darker color, and greater tolerance of close mowing.

The most promising plants were identified by their persistence and appearance in old turfs and their performance in spaced-plant nurseries, mowed clonal evaluation tests, and single-plant progeny trails under turf maintenance. Intercrosses of the best performing plants were subjected to varying cycles of phenotypic and genotypic selection depending on their date of collection. New sources of germplasm were added to the breeding program as it became available from the continuing collection program. Each cycle of selection showed continued progress in producing lower-growing, darker green, attractive plants with improved turf performance scores. Selection was also effective in maintaining high seed yields, and good stress tolerance. Substantial progress was made in developing tall fescues with finer leaves, a lower growth profile, increased persistence under close mowing, and increased density.

Large numbers of single-plant progenies were seeded in turf evaluation trials at the Plant Science Research Farm at Adelphia, NJ in 1995, 1996, 1997 and 1998. The plants selected for progeny evaluation were selected from spaced-plant nurseries at Adelphia following varying cycles of phenotypic and genotypic selection of germplasm selected from old turfs and germplasm selected from or related to Rebel tall fescue.

Following the a period of brown patch disease in 1998, a total of 6150 tillers were selected from the best performing single-plant progeny turf plots from the 1995, 1996, 1997 and 1998 tall fescue test at Adelphia. One hundred and forty-five single-plot progenies were selected from 510 plots from 8 different populations from the 1995 test, 585 plots from 9 different populations in the 1996 test, 1055 plots from 10 different populations from the 1997 test and 635 plots from 9 different populations from the 1998 test. These plants were established in greenhouse flats prior to their transfer to two spaced-plant nurseries in the fall of 1999. Selection was based on performance records as well as appearance at the time the plants were selected from these progeny plots. Selection of plants from each progeny was based on an attractive dark green color, medium-fine leaves, abundant tillering, a more open, medium coarse canopy structure and freedom from brown patch disease. Brown patch selections were put in a separate nursery that consisted of 3900 plants, while the open, medium coarse selections were placed in another nursery that consisted of 3060 plants. In the spring of 2000, 77 plants were selected from those nurseries (50% from the brown patch selections and 50% from the open, medium course selections) for characteristics such as late maturity, dark green color, intermediate shoot density, semi-dwarf leafy growth habit and freedom from disease. The selected plants were moved prior to anthesis, to an isolated crossing block at Adelphia called 'OD4'. A total of 71 plants with the best floret fertility and highest seed yield from 46 different mother lines were harvested. In the fall of 2000, one turf plot of each line was established at Adelphia. Two grams of seed from each of the 71 parents were sent to Novel AG, Inc., Inc. for further nursery evaluation and development of 'Magellan' OD4 (BT: 7/10/2006)

4>tall fescue in the summer of 2000. A nursery of approximately 14,200 plants or 200 plants/mother line by 71, was established from this seed near Woodburn, Oregon in the fall of 2000 for further evaluation of phenotypic desirability. Final selection pressure was applied based on correlation of initial turf plot performance of the half sib lines planted at the Rutgers University New Jersey Agricultural Experiment Station and the most desirable space plants in Oregon exhibiting inter-plant uniformity, an apparent improved resistance to stem and leaf rust, and important and apparent seed production traits. The six half sib lines scoring the poorest turf quality performance were eliminated, and about 15% of the remaining 13000 plants were rogued just prior to anthesis. The remaining spaced plants were allowed to inter-pollinate, mature, and were harvested as the breeder seed of 'Magellan' OD-4>tall fescue, July of 2001. (BT: 8/14/2006)

Magellan tall fescue has been examined and compared against many important and commercial varieties of tall fescue and has been found to be a consistent, unique, distinct, uniform and stable variety over 2 years of observation. No variants were observed during this time.

References

1. Buckner, Robert C., Jerrell B. Powell, and Rod V. Frakes. 1979. Historical Development, in Buckner, Robert C., and Lowell P. Bush (editors) Tall Fescue. Agronomy Monograph 20. American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, Inc., Publishers. Madison, Wisconsin pages 1-8.

2. Funk, C.R., R.E. Engel, W.K. Dickson, and R.H. Hurley. 1981. Registration of Rebel tall fescue. Crop Sci. 21:632.

Diagram of Origin and Breeding History of 'Magellan' OD4 Tall Fescue
(BT: 8/14/2006)

1. 1962 to 1994

Germplasm collection, evaluation, and genetic improvement.

2. 1995-1998

Planted single-plant progenies of plants selected from current cycles of population improvement programs in closely mowed turf trials at Adelphia and North Brunswick, NJ.

3. 1999

Selected 6150 plants from 145 of the best performing single-plant progeny turf plots planted in 1995, 1996, 1997 and 1998. Established selected plants in two spaced-plant nurseries at Adelphia, NJ.

4. 2000

Moved 77 plants to an isolated crossing block. Harvested from 71 plants with excellent appearance and floret fertility. Established each line in turf plots at Adelphia and sent 2 grams of seed from each line to Novel AG, Inc., Inc.

EXHIBIT B

Statement of Distinctness

Magellan tall fescue has been examined and compared against many important and commercial varieties of tall fescue and has been found to be a consistent, unique, distinct, and stable variety.

Magellan has been found to be most similar to Shortstop tall fescue in many seasonal growth and plant characteristics including heading date, panicle length, flag leaf height and length and mature plant height, though Magellan has exhibited a consistently and significantly wider tiller leaf width (see data tables on the following pages for tiller leaf width traits), a darker green genetic color (see data tables on following pages for genetic color information), and an erect panicle habit as compared with a nodding habit for Shortstop (see exhibit C); Glume color of Magellan exhibited 45% green and 53% purplish as compared with only 27% green and 27% purplish for Shortstop (see exhibit C).

Morphological Measurements for PVP Nursery(S)

	2002 FOREST GROVE, OREGON DATA Tiller Leaf Width (mm)
SHORTSTOP	6.87
BONSAI	7.06
REBELJR	7.35
SILVERADO	7.36
REBEL2	7.38
MINIMUSTANG	8.07
MAGELLAN	*8.17*
CREWCUT	10.16
BRAVO	10.40
BONANZA	10.78
K31	11.33
LSD (T test) 0.05%	0.54

	2002 SAINT PAUL, OREGON DATA GENETIC COLOR SCALE 1-9, 9=DARKEST AND BEST
MAGELLAN	*6.27*
BONSAI	4.80
SILVERADO	4.70
BRAVO	4.24
REBELJR	4.12
SHORTSTOP	3.86
MINIMUSTANG	3.64
BONANZA	3.56
CREWCUT	2.81
REBEL2	2.32
K31	1.58
LSD (T test) 0.05%	0.30

	2002 ST. PAUL, OREGON DATA Tiller Leaf Width (mm)
SILVERADO	6.82
BONSAI	7.48
REBEL2	7.38
SHORTSTOP	9.34
REBELJR	9.39
BONANZA	9.46
CREWCUT	9.81

	2007 SAINT PAUL, OREGON DATA GENETIC COLOR SCALE 1-9, 9=DARKEST AND BEST
MAGELLAN	*5.81*
BONSAI	4.42
SILVERADO	4.17
BRAVO	3.92
REBELJR	3.88
MINIMUSTANG	3.37
BONANZA	3.34

MINIMUSTANG	9.89
MAGELLAN	*10.18*
BRAVO	10.26
K31	10.94
LSD (T test) 0.05%	0.54

COMBINED LOCATION AVERAGES:

	Tiller Leaf Width
SILVERADO	7.09
BONSAI	7.27
REBEL2	7.38
SHORTSTOP	8.11
REBELJR	8.37
MINIMUSTANG	8.98
MAGELLAN	*9.18*
CREWCUT	9.99
BONANZA	10.12
BRAVO	10.33
K31	11.14

SHORTSTOP	2.75
CREWCUT	2.66
REBEL2	2.38
K31	1.60
LSD (T test) 0.05%	0.25

COMBINED LOCATION AVERAGES

	SAINT PAUL, OREGON DATA GENETIC COLOR SCALE 1-9, 9=DARKEST AND BEST
MAGELLAN	6.04
BONSAI	4.61
SILVERADO	4.44
BRAVO	4.08
REBELJR	4.00
MINIMUSTANG	3.51
BONANZA	3.45
SHORTSTOP	3.31
CREWCUT	2.74
REBEL2	2.35
K31	1.59

U.S. DEPARTMENT OF AGRICULTURE
PLANT VARIETY PROTECTION OFFICE, AMS, USDA
NATIONAL AGRICULTURAL LIBRARY Bldg., Rm. 500
10301 BALTIMORE Blvd.
BELTSVILLE, MD 20705

OBJECTIVE DESCRIPTION OF VARIETY
TALL & MEADOW FESCUES
(*Festuca* spp.)

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
Rutgers, the State University of ~~NJ~~ New Jersey and Novel AG, Inc. (3/27/08 bt) (BT: 7/10/2006 per appl.'s authorization)	OD-4	Magellan

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)
New Jersey Ag Experiment Station
Cook College, 88 Lipman Drive
New Brunswick, NJ 08901

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PVPO NUMBER
200400159

Place the appropriate number that describes the varietal characteristic of this variety in the boxes below. Use leading zeroes when necessary (e.g. 089) Characteristics described, including numerical measurements, should represent those that are typical for the variety. Measured data should be for SPACED PLANTS. Royal Horticultural Society or any recognized color fan may be used to determine plant colors. Characteristics marked with an asterisk * are characteristics which should be recorded.

* 1. SPECIES: (With comparison varieties, use varieties within the species of the application variety)

_✓_ 1 = *F. arundinacea* (Tall)

Turf Types

1 = Kentucky 31 2 = Rebel 3 = Olympic 4 = Bonanza 5 = Arid 6 = Rebel II
7 = Shortstop 8 = Silverado 9 = Rebel Jr. 10 = Mini Mustang 11 = Crewcut 12 = Bonsai

Forage Types

20 = Kentucky 31 21 = Martin 22 = Forager 23 = Mozark
24 = Kenhy 25 = AU Triumph 26 = Fawn 27 = Cajun

_____ 2 = *F. pratensis* (Meadow)

30 = Admira 31 = Beaumont 32 = Comtessa 33 = Ensign 34 = Trader

* 2. CYTOLOGY:

___42____ Chromosome Number

3. ADAPTATION: (0 = Not Tested; 1 = Not Adapted; 2 = Adapted)

__2__Transition Zone __2__West __2__ Northeast _____ Other (Specify):_____

* 4. MATURITY: (Date First Headed, 10% of Panicle Emergence)

__7__ Maturity Class 1 = Very early ( ) 2 = AU Triumph 3 = Early (Fawn) 4 = K31, Kenhy 5 = Medium (Rebel)
6 = Bonanza 7 = Late (Silverado) 8 = 9 = Very late

Date Headed ___May 14_____ Location __WILLAMETTE VALLEY, OREGON_____

__5__ Days earlier than _12__

Maturity same as _7___ Comparison Variety

__4__Days later than __6_

from crown to top of panicle, if panicle is nodding, straighten) (First internode subtending the flag leaf) 200400159

__ __85.6_ cm Height

__ _30.1__ cm shorter than __1

Height same as _9__ Comparison Variety

__ 11.9__ cm taller than 12

__ 14.9 cm Internode length

__ 5.6.__ cm shorter than _1__

Length same as _9_ Comparison variety

__ _1.6__ cm longer than _8__

* HEIGHT AT EAR EMERGENCE CM: (Flag leaf height from crown to flag leaf node)

__ _21.4__ cm Height

__ _12.3__ cm shorter than _1_

Height same as _NA_ Comparison Variety

__3.5__ cm taller than _8__

---

* 6. GROWTH HABIT: (Mature Plants)

__7*_ 1 = Prostrate ( ) 3 = Semiprostrate ( ) 5 = Horizontal ( )
7 = Semierect (Rebel) 9 = Erect (Mini Mustang)
70% Erect, 30% Semi Erect

---

* 7. RHIZOMES (Psuedo):

__ __.__ mm Length _✓_1 = Absent ( ) 2 = Rare (Rebel) 3 = Common ( )

---

* 8. LEAF BLADE: (Tiller leaves/ turf color)

*_6.7 Color: 1 = Light green ( ) 3 = Medium light green ( ) 5 = Green ( )
7 = Medium dark green (✓) 9 = Very dark green ( )
_6.7- Silverado Specify rating of comparison variety

*_1_ Anthocyanin: 1 = Absent ( ) 9 = Present ( )

*_9_ Basal Hairs: 1 = Absent ( ) 9 = Present ( )

*_5_ Margins: 1 = Smooth ( ) 5 = Semi-rough (57%) 9 = Rough (43%)

*_5_Width Class: 1 = Very coarse ( ) 3 = Coarse ( ) 5 = Medium ( )
7 = Fine ( ) 9 = Very Fine ( )

* TILLER LEAF LENGTH CM: (First leaf subtending the flag leaf)

__ 17.7__ cm Tiller Leaf Length

_8.6__ cm shorter than _1__

Length same as _NA_ Comparison Variety

_5.2__ cm longer than _12_

* TILLER LEAF WIDTH MM:

_9.2__ mm Tiller Leaf Width

__1.9_ mm narrower than _1__

Width same as _11_ Comparison variety

__2.1_ mm wider than _8_

FLAG LEAF LENGTH CM:

__13.2_.__ cm Flag Leaf Length

__5.4_ cm shorter than _1__

Length same as __NA Comparison Variety

__4.__ cm longer than _12

FLAG LEAF WIDTH MM:

_7.9_ mm Flag Leaf Width

_1.8__ mm narrower than _1__

Width same as _NA__ Comparison variety

__2.2_ mm wider than 12_

---

* 9. LEAF SHEATH: (Basal Portion)

*_1_ Anthocyanin (seedling): 1 = Absent (K31) 9 = Present ( )

*_7_ Auricle Hairiness: 1 = Absent (27%) 9 = Present (83%)

---

* 10. PANICLE: (At seed maturity except where noted.)

*_5_ Shape: 1 = Narrow-tapering ( ) 5 = Ovate ( ) 7 = Oblong ( ) 9 = Other (specify)

*_5_ Type: 1 = Compact (appressed) 5 = Intermediate ( ) 7 = Open ( ) 9 = Other (specify)

*_9_ Orientation: 1 = Nodding ( ) 9 = Erect ( )

*_9_ Branch Pubescence: 1 = Glabrous ( ) 9 = Pubescent (98%)

*_1_ Anther Color (At anthesis): 1 = Yellowish Green 2 = Green 3 = Bluish Green
4 = Purplish 5 = Reddish 6= Other (Specify)

*_4_ Glume Color (At anthesis): 1 = Yellowish Green 2 = Green 45% 3 = Bluish Green
4 = Purplish 53% 5 = Reddish 6= Other (Specify)

*__21.2.__ cm Panicle Length (from base to tip, if nodding, straighten; after anthesis)

_8.7_ cm shorter than _1__

Length same as _NA__ Comparison Variety

_4.9_ cm longer than _12__

---

* 11. SEED: (With Lemma & Pelea)

*_3237 __ __ mg per 1000 seeds

__ NA __ mg less than ___

Weight same as _NA_ Comparison Variety

__635_ __ mg more than _7_

PALEA: (Keels or Margins) ___ Hairs: 1 = Absent ( ) 5 = Short (Missouri 96) 9 = Long ( )

LEMMA: ___ Hairs: 1 = Absent (Kenhy) 5 = Several ( ) 9 = Many (Missouri 96)

_13.5__ mm Lemma Length (Mature)

__.34_ mm shorter than _1__

Length same as _NA__ Comparison Variety

__.4__ mm longer than _7__

__6.2_ mm Lemma width

__.01_ mm narrower than _1_

Width same as _NA__ Comparison variety

__.48__ mm wider than _7__

10. PANICLE: (continued)

*AWNS: _7.3__ AWNS: 1 = Absent ( ) 9 = Present (Falcon) __82___% Plants with awns

__1.__ mm Awn length (Of those present.)

__.3__ mm Shorter than _1__

Length same as _9__ Comparison Variety

__1.__ mm Longer than _10__

12. DISEASE, INSECT, AND NEMATODE REACTION: (0= Not Tested 1= Least Resistant 9= Most Resistant)

_0__ Melting-out *Drechslera poae*

_0__ Leaf Spot *D. siccans*

_0__ Net Blotch *D. dictyoides*

_7.2_ Brown Patch *Rhizoctonia solani*

_0__ C. Leaf Spot *Cercospora fectucae*

_0__ Pink Snow Mold *Gerlachia nivalis*

_0__ Silver Top *F. tricinctum, F. roseum*

_0__ Blind Seed *Gloeotinia temulenta*

_0__ Dollar Spot *Lanzia, Mollerdiscus* spp.

_6.3_ Stem Rust *Puccinia graminis*

_0__ T. Blight *Typhula incarnata*

_0__ Pythium Blight *Pythium* spp.

_0__ Powdery Mildew *Erysiphe graminis*

_0__ Crown Rust *Puccinia coronata*

___ Other Disease _____

___ Other Insect _____

___ Other Nematode _____

13. ENVIRONMENTAL STRESS

_3.3_ Drought Stress 1 = Susceptible ( ) 5 = Tolerant ( ) 9 = Resistant ( )

_NT_ Shade Stress 1 = Susceptible ( ) 5 = Tolerant ( ) 9 = Resistant ( )

_NT_ Winter Stress 1 = Susceptible ( ) 5 = Tolerant ( ) 9 = Resistant ( )

14. GIVE VARIETY OR VARIETIES THAT MOST CLOSELY RESEMBLE THE APPLICATION VARIETY. For the following characteristics, indicate the degree of resemblance with the following scale:

1 = Application variety is less than comparison variety 2 = Same as 3 = More than, better, greater, darker, etc.

Character	VarietiesRating	Character	VarietiesRating
Leaf Width	KY-31 1 (OD-4 is narrower than)	Leaf Color	Silverado 2
Panicle Color	KY-31 2 (OD-4 is similar to)	Panicle Shape	Rebel II 2
Seed Size	KY-31 2 (OD-4 is similar to)	Cold Injury	
Winter Color	KY-31 3	Heat	Crewcut 1 (OD- is more susceptable)
Disease	KY-31 2 (KY-31 has better brown patch ratings)		

* 15. EXPERIMENTAL: Give a brief summary of the experimental design utilized to collect the data used on this form. Cultural conditions, number of plants measured and plant spacing must be specified.

#15: A brief summary of the experimental design utilized to collect data used on this form:

The following descriptive information comes from the attached tables which were compiled from data based on 1 year (2002) and 2 locations of observation. The first location was established near St. Paul, OR. and the second location established near Forest Grove, OR. Seedlings were started for all entries in 2x150 cell pack trays in August of 2001. 3 reps of each entry were planted in a 2' x 2' spacing in October of 2001 per location. There were 30 plants in each rep and data was taken from a total of 60 data points per trait and location. Fertility was applied in the spring by broadcast spin spreader and was made up of N-P-K. Rates at both locations were around 100 units of spring N and 40 units of P & K. Similar pre-emergent chemical programs were also used at each location. Data was summarized in Excel format at each location and combined in Statistix 7 Analytical Software for summary in the tables provided. (60 data points per trait and location, 120 data point, 2 location summary).

STATISTIX 7.0 2002 ~~COMBINED~~ PLANT..., 11/14/2007, 2:12:28 PM

LSD (T) COMPARISON OF MEANS

M.R. Farm DATA
FOREST GROVE, OREGON
Plant Height Data

Exhibit D
(ST: 11/19/2007)

#200400159

VARIABLE		MEAN	HOMOGENEOUS GROUPS
K31		106.69	I
REBEL2		99.063	.. I
BONANZA		95.865	.. I
SHORTSTOP	*	88.962	.... I*
BRAVO		87.723	 I
CREWCUT		85.648	.... I I
NJ4 AZORE		81.603	..... I I
MINMUSTAN		81.392	..... I I I
REBELJR		79.438	..... I I
OD4 MAGELLAN	*	76.887	..... I*
SILVERADO		68.880	 I
BONSAI		64.102	 I

THERE ARE 8 GROUPS IN WHICH THE MEANS ARE
NOT SIGNIFICANTLY DIFFERENT FROM ONE ANOTHER.

CRITICAL T VALUE	1.963	REJECTION LEVEL	0.050
CRITICAL VALUE FOR COMPARISON	4.5621		
STANDARD ERROR FOR COMPARISON	2.3237		

STATISTIX 7.0 2002 ~~COMBINED~~ PLANT..., 11/14/2007, 2:15:00 PM

LSD (T) COMPARISON OF MEANS

St Paul Farm DATA
St. PAUL, OREGON
plant Height Data

#200400159

VARIABLE		MEAN	HOMOGENEOUS GROUPS
K31		124.65	I
BRAVO		123.03	I I
REBEL2		113.12	.. I I
BONANZA		108.48	.... I I
CREWCUT		107.48	.... I I
MINMUSTAN		100.75	..... I I
SHORTSTOP	*	100.16	..... I I *
OD4 MARELLA	*	94.358	..... I I *
REBELJR		88.250	 I
NJ4 PADRE		85.925	 I
SILVERADO		85.583	 I
BONSAI		83.383	 I

THERE ARE 6 GROUPS IN WHICH THE MEANS ARE
NOT SIGNIFICANTLY DIFFERENT FROM ONE ANOTHER.

CRITICAL T VALUE	1.963	REJECTION LEVEL	0.050
CRITICAL VALUE FOR COMPARISON	11.278		
STANDARD ERROR FOR COMPARISON	5.7442		

LSD (T) COMPARISON OF MEANS

200400159

VARIABLE	MEAN	HOMOGENEOUS GROUPS
BONSAI	139.00	I
BONANZA	135.50	.. I
REBELJR	135.00	.. I
BRAVO	134.67	.. I
SHORTSTOP	134.67	.. I
OD4	134.00	.. I I
SILVERADO	134.00	.. I I
NJ4	133.00	.. I I I
CREWCUT	131.83	.... I I
K31	131.67	.... I I
MINMUSTAN	131.50	.... I I
REBEL2	130.83	 I

THERE ARE 4 GROUPS IN WHICH THE MEANS ARE
NOT SIGNIFICANTLY DIFFERENT FROM ONE ANOTHER.

CRITICAL T VALUE	2.000	REJECTION LEVEL	0.050
CRITICAL VALUE FOR COMPARISON	2.7599		
STANDARD ERROR FOR COMPARISON	1.3797		

2002 Data
Heading Date
Average of 2 locations- Forest Grove and St. Paul OR

LSD (T) COMPARISON OF MEANS

200400159

VARIABLE	MEAN	HOMOGENEOUS GROUPS
K31	33.658	I
REBEL2	31.633	I
BONANZA	30.804	I
BRAVO	24.970	.. I
CREWCUT	23.996	.. I I
MINMUSTAN	23.604	.. I I
SHORTSTOP	23.242	.. I I
OD4	21.392	.... I I
REBELJR	19.683	..... I I
NJ4	18.050	..... I I
BONSAI	17.896	 I
SILVERADO	17.887	 I

THERE ARE 5 GROUPS IN WHICH THE MEANS ARE
NOT SIGNIFICANTLY DIFFERENT FROM ONE ANOTHER.

CRITICAL T VALUE	1.962	REJECTION LEVEL	0.050
CRITICAL VALUE FOR COMPARISON	3.3845		
STANDARD ERROR FOR COMPARISON	1.7253		

2002 Data
Height @ Ear Emergence
Average of 2 locations- Forest Grove and St. Paul OR

STATISTIX 7.0 2002 TF COMBINED TIL..., 2/25/04, 12:37:03 PM

LSD (T) COMPARISON OF MEANS

200400159

VARIABLE	MEAN	HOMOGENEOUS GROUPS
K31	26.296	I
REBEL2	24.362	.. I
BONANZA	24.093	.. I
BRAVO	22.757	 I
CREWCUT	20.810	 I
MINMUSTAN	20.445	..... I I
SHORTSTOP	19.159	 I
REBELJR	19.143	 I
OD4	17.748	 I
NJ4	16.993	 I
SILVERADO	15.541	 I
BONSAI	12.575	 I

THERE ARE 8 GROUPS IN WHICH THE MEANS ARE
NOT SIGNIFICANTLY DIFFERENT FROM ONE ANOTHER.

CRITICAL T VALUE	1.962	REJECTION LEVEL	0.050
CRITICAL VALUE FOR COMPARISON	1.3237		
STANDARD ERROR FOR COMPARISON	0.6748		

2002 Data
Tiller Leaf Height
Average of 2 locations- Forest Grove and St. Paul OR

LSD (T) COMPARISON OF MEANS

200400159

VARIABLE	MEAN	HOMOGENEOUS GROUPS
K31	18.572	I
BONANZA	18.112	I I
REBEL2	17.150	.. I
BRAVO	15.853	 I
CREWCUT	15.443	.... I I
REBELJR	15.235	.... I I
MINMUSTAN	15.048	.... I I
SHORTSTOP	14.417	..... I I
OD4	13.185	..... I I
NJ4	13.130	 I
SILVERADO	12.395	 I
BONSAI	9.2234	 I

THERE ARE 7 GROUPS IN WHICH THE MEANS ARE
NOT SIGNIFICANTLY DIFFERENT FROM ONE ANOTHER.

CRITICAL T VALUE	1.962	REJECTION LEVEL	0.050
CRITICAL VALUE FOR COMPARISON	1.2372		
STANDARD ERROR FOR COMPARISON	0.6307		

2002 Data
Flag Leaf Length
Average of 2 locations- Forest Grove and St. Paul OR

LSD (T) COMPARISON OF MEANS

200400159

VARIABLE	MEAN	HOMOGENEOUS GROUPS
REBEL2	9.7789	I
K31	9.0024	I I
BONANZA	8.7858	I I
BRAVO	8.6255	I I
CREWCUT	8.3249	I I
OD4	7.9881	I I I
NJ4	7.8359	I I I
MINMUSTAN	7.3637	.. I I
REBELJR	7.3492	.. I I
SHORTSTOP	7.1993	.. I I
SILVERADO	5.9567	 I
BONSAI	5.6627	 I

THERE ARE 3 GROUPS IN WHICH THE MEANS ARE
NOT SIGNIFICANTLY DIFFERENT FROM ONE ANOTHER.

CRITICAL T VALUE	1.962	REJECTION LEVEL	0.050
CRITICAL VALUE FOR COMPARISON	2.3677		
STANDARD ERROR FOR COMPARISON	1.2070		

2002 Data
Flag Leaf Width
Average of 2 locations- Forest Grove and St. Paul OR

LSD (T) COMPARISON OF MEANS

200400159

VARIABLE	MEAN	HOMOGENEOUS GROUPS
K31	64.122	I
REBEL2	58.937	.. I
BONANZA	52.837	 I
BRAVO	51.101	 I
CREWCUT	46.727	 I
SHORTSTOP	44.945	..... I I
MINMUSTAN	44.702	..... I I
OD4	42.853	 I
REBELJR	39.433	 I
NJ4	38.252	..... I I
SILVERADO	35.832	..... I I
BONSAI	33.853	 I

THERE ARE 8 GROUPS IN WHICH THE MEANS ARE
NOT SIGNIFICANTLY DIFFERENT FROM ONE ANOTHER.

CRITICAL T VALUE	1.962	REJECTION LEVEL	0.050
CRITICAL VALUE FOR COMPARISON	2.9742		
STANDARD ERROR FOR COMPARISON	1.5162		

2002 Data
Flag Leaf Height
Average of 2 locations- Forest Grove and St. Paul OR

LSD (T) COMPARISON OF MEANS

VARIABLE	MEAN	HOMOGENEOUS GROUPS
REBEL2	22.002	I
K31	20.548	I I
BONANZA	19.654	.. I
BRAVO	18.345	.. I I
SHORTSTOP	16.683	.... I I
CREWCUT	16.444	.... I I
MINMUSTAN	16.269	 I
BONSAI	15.415	..... I I
OD4	14.985	..... I I I
REBELJR	14.077	..... I I
NJ4	13.638	..... I I
SILVERADO	13.331	 I

THERE ARE 6 GROUPS IN WHICH THE MEANS ARE
NOT SIGNIFICANTLY DIFFERENT FROM ONE ANOTHER.

CRITICAL T VALUE 1.962 REJECTION LEVEL 0.050
STANDARD ERRORS AND CRITICAL VALUES OF DIFFERENCES
VARY BETWEEN COMPARISONS BECAUSE OF UNEQUAL SAMPLE SIZES.

2002 Data
Internode length
Average of 2 locations- Forest Grove and St. Paul OR

LSD (T) COMPARISON OF MEANS

200400159

VARIABLE	MEAN	HOMOGENEOUS GROUPS
K31	29.899	I
BONANZA	26.942	.. I
BRAVO	26.700	.. I
CREWCUT	25.886	.. I
MINMUSTAN	24.623	 I
REBEL2	23.999	 I
REBELJR	22.620	 I
SHORTSTOP	22.130	..... I I
OD4	21.262	 I
SILVERADO	19.549	 I
NJ4	19.353	 I
BONSAI	16.419	 I

THERE ARE 7 GROUPS IN WHICH THE MEANS ARE
NOT SIGNIFICANTLY DIFFERENT FROM ONE ANOTHER.

CRITICAL T VALUE	1.962	REJECTION LEVEL	0.050
CRITICAL VALUE FOR COMPARISON	1.0723		
STANDARD ERROR FOR COMPARISON	0.5466		

2002 Data
Panicle Length
Average of 2 locations- Forest Grove and St. Paul OR

Tall Fescue Seed Measurements
Year 2002- 2 Locations
St. Paul

	10 Seed Length	10 Seed Width	mg/1000 Seeds
Bonanza	13.33 mm	6.10 mm	3120
KY-31	14.0 mm	6.30 mm	3045
NJ4	13.33 mm	6.30 mm	3120
OD4	13.67 mm	6.27 mm	3320
Rebel II	14.0 mm	6.12 mm	2950
Shortstop	13.0 mm	5.70 mm	2855

Forest Grove

	10 Seed Length	10 Seed Width	mg/1000 Seeds
Bonanza	13.67 mm	6.20 mm	2960
KY-31	13.67 mm	6.15 mm	3145
NJ4	13.0 mm	6.10 mm	3025
OD4	13.33 mm	6.15 mm	3155
Rebel II	13.67 mm	5.67 mm	2950
Shortstop	13.20 mm	5.75 mm	2350

Average of Seed Measurements

	10 Seed Length	10 Seed Width	mg/1000 Seeds
Bonanza	13.50 mm	6.15 mm	3040
KY-31	13.84 mm	6.23 mm	3095
NJ4	13.17 mm	6.20 mm	3072.5
OD4	13.50 mm	6.21 mm	3237.5
Rebel II	13.84 mm	5.90 mm	2950
Shortstop	13.10 mm	5.73 mm	2602.5

REPRODUCE LOCALLY. Include form number and edition date on all reproductions. FORM APPROVED - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued *(7 U.S.C. 2421)*. The information is held confidential until the certificate is issued *(7 U.S.C. 2426)*.

1. NAME OF APPLICANT(S)

Rutgers, the State University of New Jersey and Novel AG, Inc. (CBT: 7/10/2006 per applicant's authorization) (BTE 3/27/08)

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER

QD-4

3. VARIETY NAME

Magellan

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*

New Jersey Experiment Station
Cook College, Rutgers, the State University
88 Lipman Drive
New Brunswick, NJ 08901-8525

5. TELEPHONE *(Include area code)*

(732) 761-9257

6. FAX *(Include area code)*

7. PVPO NUMBER

200400159

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. **If no, please explain.** ☑ YES ☐ NO

Yes

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? **If no, give name of country.** ☑ YES ☐ NO

10. Is the applicant the original owner? ☑ YES ☐ NO **If no, please answer one of the following:**

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?
☐ YES ☐ NO **If no, give name of country**

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?
☐ YES ☐ NO **If no, give name of country**

11. Additional explanation on ownership *(Trace ownership from original breeder to current owner. Use the reverse for extra space if needed)*:

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.